

PHILIP S. GREEN
Application No.: 08/709,930
Page 2

PATENT

1 115. (As Filed) A method for allowing a user to remotely control a movement of a surgical
2 instrument having a tip, the method comprising the steps:
3 a) establishing an original position of the surgical instrument tip;
4 b) inputting a command provided by a user to move the surgical instrument in a desired
5 direction relative to an object displayed on a display device;
6 c) computing an incremental movement of the surgical instrument based on the command
7 provided by the user and on the original position of the surgical instrument;
8 d) moving the surgical instrument in the desired direction so that the surgical instrument
9 tip always moves in a direction commanded by the user.

Please cancel claim 116.

Claim 117 has previously been canceled.

1 118. (As Filed) A medical robotic system, comprising:
2 a robotic arm;
3 a coupler that pivotally attaches to the arm;
4 an endoscopic surgical instrument that is held by said coupler; and
5 a controller having a handle, the controller in electrical communication with the robotic arm;
6 and
7 wherein movement at the controller produces a proportional movement of the robotic arm and
8 surgical instrument.

1 119. (Previously Amended) A medical robotic system, comprising:
2 a robotic arm;
3 a coupler that pivotally attaches to the arm;
4 an endoscopic surgical instrument that is held by said coupler; and a controller having a handle,
5 the controller in electrical communication with the robotic arm; and
6 wherein movement at the controller produces a proportional movement of the robotic arm and
7 surgical instrument, and wherein said endoscopic surgical instrument is an articulable endoscopic surgical
8 instrument.

1 120. (Previously Amended) A medical robotic system, comprising:
2 a robotic arm;
3 a coupler that pivotally attaches to the arm;
4 an articulable endoscopic surgical instrument that is held by said coupler; and

PHILIP S. GREEN
Application No.: 08/709,930
Page 3

PATENT

5 a controller having a handle, the controller in electrical communication with the robotic arm;
6 and
7 wherein movement at the controller produces a proportional movement of the robotic arm and
8 the articable surgical instrument, and wherein the articable surgical instrument comprises a base, a pivot
9 linkage, and a distal end.

1 121. (Previously Amended) The system of claim 120 wherein a movement at the controller
2 results in corresponding movement of the distal end of the articable surgical instrument relative to the base of
3 the articable surgical instrument.

1 122. (Previously Amended) The system of claim 121 wherein a cauterizer is attached at the
2 distal end of the articable surgical instrument.

1 123. (Previously Amended) A method for operating a surgical robotic system for
2 performing a surgical procedure on a patient, the method comprising:

- 3 1) providing a first articulate arm, a controller and an input device which receives input
4 commands, the first articulate arm in electrical communication with the controller and the controller in electrical
5 communication with the input device;
6 2) cutting at least one incision into the patient;
7 3) attaching a surgical instrument to the first articulate arm;
8 4) inserting said surgical instrument into the patient through the at least one incision;
9 5) generating input commands to move said surgical instrument in accordance with the
10 procedure being performed wherein said robotic arm moves said surgical instrument in accordance with the input
11 commands; and
12 6) removing the surgical instrument from the patient.

1 124. The method of claim 123 wherein said surgical instrument is a grasper.

1 125. The method of claim 123 wherein the surgical instrument is a cauterizer.

1 126. The method of claim 123 wherein the surgical instrument is a cutting blade.

Please cancel claim 127.

Claim 128 has previously been canceled.

Please cancel claims 129-132.

Claims 133-137 have previously been canceled.

PHILIP S. GREEN
Application No.: 08/709,930
Page 4

PATENT

1 138. (As Filed) A system that allows a user to control a movement of a surgical instrument,
2 wherein the surgical instrument is coupled to a display device that displays an object, comprising:
3 a mechanism that moves the surgical instrument, said mechanism having an original position;
4 an input device that receives a command to move the surgical instrument in a desired direction
5 relative to the object displayed by the display device; and,
6 a controller that receives said command to move the surgical instrument in the desired direction,
7 computes a movement of said mechanism based on said command and the original position of said mechanism so
8 that the surgical instrument moves in the desired direction, and provides output signals to said mechanism to
9 move said mechanism said computed movement to move the surgical instrument in the desired direction
10 commanded by the user.

1 139. (Previously Amended) The system as recited in claim 138, wherein said mechanism
2 includes a first linkage arm coupled to the surgical instrument and a first actuator which can rotate said first
3 linkage arm and the surgical instrument in a plane perpendicular to a first axis, said first actuator being coupled to
4 a linear actuator which can translate said first linkage arm along an axis parallel with the first axis.

Claim 140 has previously been canceled.

1 141. (Previously Amended) The system as recited in claim 138, wherein said controller is a
2 computer which receives input signals from said input device and provides output signals to said controller to
3 move the position of the surgical instrument.

Please cancel claims 142 and 143.

1 144. (As Filed) A system for allowing a surgeon to control a surgical instrument that is
2 inserted through an incision of a patient, wherein the incision defines a pivot point, comprising:
3 an articulate arm having an end effector for holding the surgical instrument, an active joint for
4 moving said end effector, and an actuator for spinning the surgical instrument;
5 a first input device for receiving an input command from the surgeon; and
6 a controller for receiving said input command, for computing a movement of said articulate arm
7 based on said input command, for providing an output command to actuate said active joint and said actuator, and
8 for moving the surgical instrument about the pivot point.

Please cancel claim 145.

Claim 146 has previously been canceled.